

Figure 1. More specifically, it is assumed that titanium is being deposited from the reaction of titanium tetrachloride (TiCl_4) and hydrogen. Process parameters include a temperature of about 150 to about 500 degrees Celsius; a pressure ranging from about 1 milli-Torr to about 10 Torr; an RF power ranging from about 50 watts to about 600 watts, preferably 500 watts, and at a frequency on the order of 13.56 MHz. The flow rate of the precursor gas TiCl_4 generally ranges between about 10 and about 50 sccm, but is preferably about 30 sccm, and the flow rate of the reactant gas H_2 is about 10,000 sccm. In addition, an inert reaction-promoter gas is flowed into the system 10. It is preferred that the flow rate percentage of reaction-promoter gas to reactant gas be at least 40%. In the current example, the reaction-promoter gas is flowed at a rate of about 5,000 sccm. Nevertheless, a flow rate of at least 4,000 sccm would be acceptable.

A marked version of these Specification paragraphs appear in an appendix to this Amendment and Response.

IN THE CLAIMS:

Please amend the claims to the form indicated below.

1. (Twice amended) A process of PECVD deposition of metal films comprising the steps of:
providing an ion promoting atmosphere; and
contacting a substrate with a plasma of approximately 50 to 90 % of a metal-containing gas in said ion promoting atmosphere.
4. (Once amended) The process of claim 1 wherein said step of contacting a substrate with a plasma comprises having a pressure range of 1 mTorr to 10 Torr.

Marked versions of these claims appear in an appendix to this Amendment and Response.